

SAFETY DATA SHEET**SECTION 1. IDENTIFICATION****Product identifier used on the label****: MMC 78****Product Code(s)** : MMC 78 1lb.**Recommended use of the chemical and restrictions on use**: Nickel base, anti-sieze, lubricating and sealing compound.
No restrictions on use known.**Chemical family** : Mixture of: Mineral spirits; Inorganic carbon compound; Metal compounds; Carboxylic acid salts**Name, address, and telephone number of the manufacturer:****MMC Lubricants
A Division of Lee Industrial Ltd.**13922 Eight Mile Rd.
Arva, ON, Canada
N0M 1C0**Name, address, and telephone number of the supplier:**

Refer to manufacturer

Manufacturer's Telephone # : (519) 439-0321**24 Hr. Emergency Tel #** : (519) 870-5562**SECTION 2. HAZARDS IDENTIFICATION****Classification of the chemical**

Gray paste. Petroleum odor.

Most important hazards:

Irritating to skin. May cause an allergic skin reaction. Inhalation may cause central nervous system depression. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

Very toxic to aquatic life with long lasting effects. Avoid release to the environment. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Skin corrosion/irritation - Category 2

Skin sensitization - Category 1

Carcinogenicity - Category 2

Specific target organ toxicity, single exposure - Category 3 (Narcotic effects)

Specific target organ toxicity, repeated exposure - Category 1

Label elements*Hazard pictogram(s)**Signal Word*
DANGER!*Hazard statement(s)*

Causes skin irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Suspected of causing cancer.

Causes damage to organs through prolonged or repeated exposure.

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Precautionary statement(s)

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust, fume or vapor.
 Wash exposed skin thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapors may evolve on burning. May cause mild eye irritation. May cause mild respiratory irritation at higher temperatures. May cause gastrointestinal irritation. Inhalation of fumes may result in metal fume fever, a flu-like illness.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
V,M and P Naphtha	Mineral spirits Ligroine	8032-32-4	30.0 - 60.0
Graphite	Mineral carbon	7782-42-5	15.0 - 40.0
Nickel	Elemental nickel	7440-02-0	7.0 - 13.0
Aluminum	Not available.	7429-90-5	3.0 - 7.0
Aluminum stearate	Octadecanoic acid, aluminum salt Stearic acid, aluminum salt	637-12-7	3.0 - 7.0
Zinc oxide	Zinc monoxide	1314-13-2	3.0 - 7.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- | | | |
|---------------------|---|---|
| <i>Ingestion</i> | : | If ingested, do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. IF exposed or concerned: Get medical advice/attention. |
| <i>Inhalation</i> | : | IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell. |
| <i>Skin contact</i> | : | IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. |
| <i>Eye contact</i> | : | Rinse immediately with plenty of water, also under the eyelids. IF exposed or concerned: Get medical attention/advice. |

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Most important symptoms and effects, both acute and delayed

- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
- Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness.
- Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing.
- Causes damage to organs through prolonged or repeated exposure by inhalation. Contains: Nickel. Nickel compounds have been shown to cause chronic lung inflammation and lung fibrosis through inhalation. These effects were serious and potentially irreversible.
- Symptoms of excessive exposure may include increased respiratory rate, "blue" tinged (cyanosis) extremities, body and/or facial area, nausea, vomiting and coughing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.
- Mild respiratory irritant. May cause coughing and breathing difficulties. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.
- Direct eye contact may cause slight or mild, transient irritation. Symptoms may include stinging and tearing.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use water jet, as this may spread burning material.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. However, may burn if exposed to extreme heat and flame. Toxic fumes, gases or vapors may evolve on burning. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

- : Not classified as flammable.

Hazardous combustion products

- : Carbon oxides; Reactive hydrocarbons; Metal oxides; Sulfur oxides; Nitrogen oxides (NOx); Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Avoid release to the environment. Prevent product from entering drains, sewers, waterways and soil.

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Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use inert, non-combustible absorbents to assist the pick up of material. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): Nickel (100 lbs / 45.4 kg)

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.
Use only outdoors or in a well-ventilated area. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe dust, fume or vapor. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Empty containers retain residue (liquid and/or vapor) and can be dangerous.

Conditions for safe storage

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles.

Incompatible materials

- : Oxidizing agents; Strong acids; Strong bases; Halogenated compounds; Alkali metals

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u> <u>STEL</u>
V,M and P Naphtha	N/Av	N/Av	300 ppm (1350 mg/m ³) (final rule limit) 400 ppm (1800 mg/m ³) (final rule limit)
Graphite	2 mg/m ³ (all forms except graphite fibers, respirable fraction)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable) (PNOR) N/Av
Nickel	1.5 mg/m ³ (inhalable)	N/Av	1 mg/m ³ N/Av
Aluminum	1 mg/m ³ (respirable)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable) N/Av
Aluminum stearate	1 mg/m ³ (respirable) (insoluble compounds of Aluminum)	N/Av	N/Av N/Av
Zinc oxide	2 mg/m ³ (respirable)	10 mg/m ³ (respirable)	5 mg/m ³ (fume); 15 mg/m ³ (total dust); 5 mg/m ³ (respirable) N/Av

Exposure controls**Ventilation and engineering measures**

- : Use only outdoors or in a well-ventilated area. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear resistant clothing and boots.

Eye / face protection

- : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles; Safety glasses with side shields. A full face shield may also be necessary.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Do not breathe dust, fume or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing must not be allowed out of the workplace.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Gray paste.
- Odor : Petroleum odor.
- Odor threshold : N/Av
- pH : N/Av
- Melting/Freezing point : N/Av

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: N/Av

Flash point : 193°C (379°F)**Flashpoint (Method)** : Cleveland Open Cup**Evaporation rate (BuAe = 1)** : N/Av**Flammability (solid, gas)** : Not applicable.**Lower flammable limit (% by vol.)**

: N/Av

Upper flammable limit (% by vol.)

: N/Av

Oxidizing properties : None known.**Explosive properties** : Not explosive**Vapor pressure** : N/Av**Vapor density** : N/Av**Relative density / Specific gravity**

: 1.329

Solubility in water : Negligible.**Other solubility(ies)** : N/Av**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**

: N/Av

Auto-ignition temperature : N/Av**Decomposition temperature** : N/Av**Viscosity** : N/Av**Volatiles (% by weight)** : N/Av**Volatile organic Compounds (VOC's)**

: N/Av

Absolute pressure of container

: N/Av

Flame projection length : N/Av**Other physical/chemical comments**

: No additional information.

SECTION 10. STABILITY AND REACTIVITY**Reactivity** : Not normally reactive.**Chemical stability** : Stable under normal conditions.**Possibility of hazardous reactions**

: Hazardous polymerization does not occur.

Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.**Incompatible materials** : Water; Oxidizing agents; Strong acids; Strong bases; Halogenated compounds; Alkali metals**Hazardous decomposition products**

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure:****Routes of entry inhalation** : YES**Routes of entry skin & eye** : YES**Routes of entry Ingestion** : YES**Routes of exposure skin absorption**

: NO

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Mild respiratory irritant. May cause coughing and breathing difficulties. Exposure to high vapor concentration can cause dizziness, nausea and central nervous system depression. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Sign and symptoms ingestion

- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation.

Sign and symptoms eyes

- : Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Potential Chronic Health Effects

- : If dusts are formed, inhalation may cause adverse lung effects. Prolonged or repeated inhalation may cause increased mucous production.

Mutagenicity

- : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Carcinogenicity - Category 2. Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing. Contains: Nickel. Nickel is classified as carcinogenic by IARC (group 2B), and NTP.

Reproductive effects & Teratogenicity

- : This product is not expected to cause reproductive or developmental effects.

Sensitization to material

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin sensitization - Category 1. May cause an allergic skin reaction. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema. Contains: Nickel. Not expected to be a respiratory sensitizer.

Specific target organ effects

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific target organ toxicity, single exposure - Category 3. May cause drowsiness or dizziness.

Specific target organ toxicity, repeated exposure - Category 1. Causes damage to organs through prolonged or repeated exposure. Contains: Nickel. Nickel compounds have been shown to cause chronic lung inflammation and lung fibrosis through inhalation. These effects were serious and potentially irreversible. Symptoms of excessive exposure may include increased respiratory rate, "blue" tinged (cyanosis) extremities, body and/or facial area, nausea, vomiting and coughing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

Synergistic materials

- : None known or reported by the manufacturer.

Toxicological data

- : Not classified for acute toxicity based on available data. No data is available on the product itself. The calculated ATE values for this mixture are:
ATE inhalation (vapors) = 32 mg/L/4H

See below for individual ingredient acute toxicity data.

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<u>Chemical name</u>	LC₅₀ (4hr) <u>inh, rat</u>	LD₅₀	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
V,M and P Naphtha	3400 ppm (16 mg/L) (vapor)	> 5000 mg/kg	> 2000 mg/kg (No mortality)
Graphite	> 64.4 mg/L (dust)	> 10 000 mg/kg	N/Av
Nickel	> 2.55 mg/L (dust) (no deaths)	> 9000 mg/kg	N/Av
Aluminum	> 2.3 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	N/Av
Aluminum stearate	N/Av	> 5000 mg/kg	> 3000 mg/kg (No mortality) (guinea pig)
Zinc oxide	> 5.7 mg/L (dust) (No mortality)	> 5000 mg/kg	> 2000 mg/kg (No mortality)

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Very toxic to aquatic life with long lasting effects. The product contains the following substances which are hazardous for the environment: Nickel; Zinc oxide. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
V,M and P Naphtha	8032-32-4	1.2 mg/L (Rainbow trout) (Read-across)	N/Av	None.
Graphite	7782-42-5	> 100 mg/L (Zebra fish)	N/Av	None.
Nickel	7440-02-0	15.3 mg/L (Rainbow trout)	N/Av	None.
Aluminum	7429-90-5	N/Av	N/Av	None.
Aluminum stearate	637-12-7	N/Av	N/Av	None.
Zinc oxide	1314-13-2	1.1 mg/L (Rainbow trout)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
V,M and P Naphtha	8032-32-4	4.5mg/L (Daphnia magna) (Read-across)	0.17mg/L (Read-across)	None.
Graphite	7782-42-5	> 100 mg/L (Daphnia magna)	N/Av	None.
Nickel	7440-02-0	N/Av	N/Av	None.
Aluminum	7429-90-5	N/Av	N/Av	None.
Aluminum stearate	637-12-7	N/Av	N/Av	None.
Zinc oxide	1314-13-2	0.098 mg/L (Daphnia magna)	N/Av	10

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<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
V,M and P Naphtha	8032-32-4	3.1 mg/L/72hr (Green algae)	0.5 mg/L/72hr	None.
Graphite	7782-42-5	> 100 mg/L/72hr (Green algae)	≥ 100 mg/L/72hr	None.
Nickel	7440-02-0	N/Av	N/Av	None.
Aluminum	7429-90-5	N/Av	N/Av	None.
Aluminum stearate	637-12-7	N/Av	N/Av	None.
Zinc oxide	1314-13-2	0.044 mg/L/72hr (Green algae)	N/Av	10

Persistence and degradability

- : The product itself has not been tested.
- Contains the following chemicals which are not readily biodegradable: Nickel; Graphite; Aluminum; Zinc oxide.

Bioaccumulation potential

- : The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
V,M and P Naphtha (CAS 8032-32-4)	3.6 - 5.7	105 - 1216
Aluminum stearate (CAS 637-12-7)	N/Av	3.162 (calculated)
Zinc oxide (CAS 1314-13-2)	- 1.53 (estimated)	N/Av

Mobility in soil

- : The product itself has not been tested.

Other Adverse Environmental effects

- : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS**Handling for Disposal**

- : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way. Empty containers retain residue and can be dangerous. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal








- : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

- : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide; VM&P Naphtha)	9	III	 
TDG Additional information	This material may be shipped as an exempted marine pollutant in accordance with TDG Section 1.45.1 and Special Provision 99.				
49CFR/DOT	None.	Not regulated.	Not regulated	None	
49CFR/DOT Additional information	Not regulated for road or rail shipment if packaged in non-bulk containers (450 L / 119 Gallons or less each). If shipping non-bulk containers (< 119 gal./450 L) internationally by sea or air, refer to IATA or IMDG information, as appropriate.				
ICAO/IATA	UN3077	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide; VM&P Naphtha)	9	III	 
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material. The 'Environmentally hazardous' mark must appear on packagings holding more than 5 kg of the material.				
IMDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide; VM&P Naphtha)	9	III	 
IMDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass. The 'Environmentally hazardous' mark must appear on packagings holding more than 5 kg of the material.				

Special precautions for user : Appropriate advice on safety must accompany the package. Avoid release to the environment.

Environmental hazards : This mixture meets the criteria for an environmentally hazardous material according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
V,M and P Naphtha	8032-32-4	Yes	None.	None.	No	N/Ap
Graphite	7782-42-5	Yes	None.	None.	No	N/Ap
Nickel	7440-02-0	Yes	100 lb/45.4 kg	None.	Yes	0.1%
Aluminum	7429-90-5	Yes	None.	None.	Yes	1%
Aluminum stearate	637-12-7	Yes	None.	None.	No	N/Ap
Zinc oxide	1314-13-2	Yes	None.	None.	Yes	1%

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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

Health hazards (Skin irritation; Skin sensitization; Carcinogenicity; Specific target organ toxicity, single exposure; Specific target organ toxicity, repeated exposure)

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
V,M and P Naphtha	8032-32-4	No	N/Ap	No	No	Yes	Yes	Yes	No
Graphite	7782-42-5	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Nickel	7440-02-0	Yes	Cancer	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum	7429-90-5	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum stearate	637-12-7	No	N/Ap	No	No	No	No	No	No
Zinc oxide	1314-13-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI:

VM&P Naphtha (Part 5: Other groups and mixtures)

Nickel (Part 1, Group A Substance)

Aluminum (Part 1, Group A Substance)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

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International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECS</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>New Zealand IOC</u>
V,M and P Naphtha	8032-32-4	232-453-7	Present	Present	Not listed	KE-21994	Present	May be used as a single component chemical under an appropriate group standard.
Graphite	7782-42-5	231-955-3	Present	Present	Not listed	KE-18101	Present	May be used as a single component chemical under an appropriate group standard.
Nickel	7440-02-0	231-111-4	Present	Present	Not listed	KE-25818	Present	HSR003031
Aluminum	7429-90-5	231-072-3	Present	Present	Not listed	KE-00881	Present	HSR001263 (coated, PGII); HSR001471, HSR001473 (coated, PGII); HSR001474 (pyrophoric); HSR001472 (uncoated, PGII)
Aluminum stearate	637-12-7	211-279-5	Present	Present	(2)-625	KE-26336	Present	May be used as a single component chemical under an appropriate group standard.
Zinc oxide	1314-13-2	215-222-5	Present	Present	(1)-561	KE-35565	Present	HSR003104

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
EC50: Effective Concentration 50%
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
IOC: Inventory of Chemicals
ISHL: Industrial Safety Health Law

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KECI: Korean Existing Chemicals Inventory
 KECL: Korean Existing Chemicals List
 LC: Lethal Concentration
 LD: Lethal Dose
 MA: Massachusetts
 MN: Minnesota
 N/Ap: Not Applicable
 N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NJ: New Jersey
 NOEC: No observable effect concentration
 NTP: National Toxicology Program
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PA: Pennsylvania
 PEL: Permissible exposure limit
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 PNOR: Particulates Not Otherwise Regulated
 PPE: Personal Protective Equipment
 RCRA: Resource Conservation and Recovery Act
 RI: Rhode Island
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 SCBA: Self-Contained Breathing Apparatus
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

References


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- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - March 2015 version.
- 6. California Proposition 65 List - December 29, 2017 version.
- 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2018.

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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